

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. 94TVP01

Application No. 94

Issue Date: December 16, 2002

Expiration Date: January 15, 2008

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the permittee, Marathon Oil Company, for the operation of the Kenai Gas Field Pad 14-6.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As required by AS 46.14.120(c), the permittee shall comply with the terms and conditions of this operating permit.

All facility-specific terms and conditions of Air Quality Control Permit-to-Operate No. 9523-AA003 have been incorporated into this Operating Permit.

This Operating Permit becomes effective January 16, 2003.

John F. Kuterbach, Manager

Air Permits Program

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List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society for Testing and Materials
C.F.R.	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
dscf	Dry standard cubic feet
EPA	US Environmental Protection Agency
gr./dscf	grain per dry standard cubic feet (1 pound = 7000 grains)
GPH	gallons per hour
HAPs	Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
ID	Source Identification Number
kPa	kiloPascals
MACT	Maximum Achievable Control Technology
NESHAPs	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS	Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
ppm	Parts per million
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM	Reference Method
SIC	Standard Industrial Classification
SO ₂	Sulfur dioxide
TPH	Tons per hour
TPY	Tons per year
VOC	volatile organic compound [as defined in 18 AAC 50.990(103)]
wt%	weight percent
ppmvd	parts per million by volume, dry

Section 1. Identification

Names and Addresses

Permittee: Marathon Oil Company
P.O. Box 196168
Anchorage, AK 99519-6168

Facility: Kenai Gas Field Pad 14-6
Physical Address: 60⁰ 27' N, 151⁰ 15' W
Section 6, T4N; R11W; Seward Meridian
Kenai Peninsula Borough, Alaska

Owner/Operator: Marathon Oil Company
P. O. Box 196168
Anchorage, AK 99519-6168

Permittee's Responsible Official: John A. Barnes
Alaska Business Unit Manager
Phone: (907)564-6400; Fax: (907) 564-6489

Designated Agent: CT Corporation System
(Marathon Oil Company)
810 W. 10th Street, Suite 300
Juneau, AK 99801
Phone: (907)586-3340

Facility and Building Contact: Donald R. Erwin, Field Operations Supervisor
34090 Kalifornsky Beach Road
Kenai, Alaska 99611
Phone: (907) 283-1303
Fax: (907) 283-6175

Fee Contact: Donna M. Stevison
HES Manager
Marathon Oil Company
P. O. Box 196168
Anchorage, AK 99519-6168
Phone: (907) 564-6425; Fax: (907) 564-6489
DMStevison@Marathonoil.com

SIC Code of the Facility:
1311 - Crude Petroleum & Natural Gas

[18 AAC 50.350(b), 1/18/97]

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as provided in the permittee's application:

Particulate Matter (PM-10), Sulfur Oxides (SO_x), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOC).

Operating Permit Classifications:

1) **18 AAC 50.325(b)(1).** The Kenai Gas Field 14-6 site is a facility subject to this regulation because the plant emits or has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant under 18 AAC 50.015.

2) **18 AAC 50.325(b)(2).** The Kenai Gas Field 14-6 site is a facility subject to this regulation because the facility emits or has the potential to emit 10 TPY or more of a hazardous air contaminant or 25 TPY or more, in the aggregate, of two or more hazardous air contaminants except that, for the purposes of this paragraph and notwithstanding the definition of "potential to emit", emissions from an oil or gas production or exploration well with its associated equipment and emissions from a pipeline compressor or pump station may not be aggregated with emissions from another similar unit.

3) **18 AAC 50.325(b)(3).** The Kenai Gas Field 14-6 site is a facility subject to this regulation because the turbines, Source IDs 1 and 2 in Table 1 are subject to one of the New Source Performance Standards (NSPS) adopted by reference in 18 AAC 50.040(a)-(c).

[18 AAC 50.350(b), 1/18/97]

Section 3. Fee Requirements

- 1. Assessable Emissions.** The permittee shall pay to the department an annual emission fee based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminants that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

- 1.1 the facility's assessable potential to emit of 438 tpy;
- 1.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon previous actual annual emissions, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
 - d. other methods and calculations approved by the department; OR

[18 AAC 50.346(a)(1), 5/3/02 & 18 AAC 50.410, 1/18/97]

- 2. Assessable Emission Estimates.** Emission fees will be assessed as follows:

- 2.1 No later than March 31 of each year, the permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795. The submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates, or
- 2.2 If no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 1.1.

[18 AAC 50.346(a)(1), 5/3/02 & 18 AAC 50.410, 1/18/97]

Section 4. Source Inventory and Description

Sources listed below have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

Table 1 Source Inventory

ID	Source Name	Source Description	Rating/size	Install Date
3	Compressor Drive	#1 Solar Saturn 1200 Turbine	1200 Hp	1980
4	Compressor Drive	#2 Solar Saturn 1200 Turbine	1200 Hp	1981
5	Compressor Drive	#3 Solar Saturn 1200 Turbine	1200 HP	1980
11	Compressor Drive #2	Solar Centaur 4700 Turbine	4700 HP	1995
12	Compressor Drive #1	Solar Centaur 4700 Turbine	4700HP	1995
18*	Emergency Generator	Cat. 3406 DITA Engine (Diesel)	275 kW	1996
19	Rig Boiler	Mobile Rig Boiler (Diesel)	4.5 MMBtu/hr	2000
20	Rig Heater	Mobile Rig Heater (Diesel)	2.2 MMBtu/hr	2001
21	Well Test Flare	Temporary Flare	100* MMCF/yr	N/A
22	Glycol Dehyd.Vent# 1	Dehydrator # 1	N/A	1982
23	Glycol Dehyd.Vent# 2	Dehydrator # 2	N/A	1982
24	Glycol Dehyd.Vent# 3	Dehydrator # 3	N/A	1982
25	Glycol Dehyd.Vent# 4	Dehydrator # 4	N/A	1982

*Owner Requested Limit

[18 AAC 50.350(d)(2), 1/18/97]

Section 5. Source-Specific Requirements

Fuel-Burning Equipment

- 3. Visible Emissions.** The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:
- 3.1 greater than 20 percent for a total of more than three minutes in any one hour¹,
[18 AAC 50.055(a)(1), 1/18/97, 18 AAC 50.350(d)(1)(C), 6/21/98]
40 CFR 52.70, 11/18/98]
- 3.2 more than 20 percent averaged over any six consecutive minutes.
[18 AAC 50.055(a)(1), 5/3/02]
- 3.3 For Source ID 18, as long as it does not exceed the limits in condition 14, monitoring for visible emissions will consist of an annual compliance certification under condition 48.
- 3.4 Monitor, record and report visible emissions in accordance with Section 13.
[18 AAC 50.350(g) - (i), 5/3/02]
- 4. Particulate Matter Emissions.** The permittee shall not cause or allow particulate matter emitted from Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.
- 4.1 For Source ID 18, as long as it does not exceed the limits in condition 14, monitoring for particulate matter emissions will consist of an annual compliance certification under condition 48.
- 4.2 Monitor, record and report according to Section 13.
[18 AAC 50.055(b) & 18 AAC 50.350(d)(1)(D), 1/18/97; & 18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]
- 5. Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 to exceed 500 ppm averaged over three hours.
[18 AAC 50.055(c) & 18 AAC 50.350(d)(1)(D); 1/18/97; 18 AAC 50.346(c), 5/3/02]

For diesel fuel, Source IDs 18, 19 & 20

- 5.1 The permittee shall do one of the following for each shipment of fuel:

¹ For purposes of this permit, the “more than three minutes in any one hour” criterion in this condition and condition 18 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard is enforceable only by the state for Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 until 18 AAC 50.055(a)(1), dated May 3, 2002 is approved by EPA into the SIP at which time this standard becomes federally enforceable.

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- a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or
 - b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and
 - (i) test the fuel for sulfur content; or
 - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
- 5.2 Fuel testing under condition 5.1 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the department.
- 5.3 If a load of fuel contains greater than 0.75 percent sulfur by weight, the permittee shall calculate SO₂ emissions in ppm using either Section 14 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 5.4 The permittee shall report as follows:
- a. If SO₂ emissions are calculated under condition 5.3 to exceed 500 ppm, the permittee shall report under condition 45. When reporting under this condition, include the calculation under Section 14.
 - b. The permittee shall include in the report required by condition 47
 - (i) a list of the fuel grades received at the facility during the reporting period;
 - (ii) for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and
 - (iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO₂ emissions in ppm.

[18 AAC 50.346(c) & 350(g) - (i), 5/3/02]

For fuel gas, Source IDs 3, 4, 5, 11, 12, & 21

5.5 Monitoring – The permittee shall **either**

- a. obtain a semiannual statement from the fuel supplier of the fuel gas H₂S concentration in ppm; **or**
- b. analyze a representative sample of the fuel semiannually to determine the sulfur content using length-of-stain detector tubes per ASTM Methods D4810 88 and D4913-89.

[EPA Custom Fuel Monitoring Schedule, 9/23/98]
[18 AAC 50.350(g), 1/18/97]

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- 5.6 Recordkeeping - Keep records of the semiannual statement from the fuel supplier or the sulfur content analysis required under conditions 5.5a or 5.5b.

[18 AAC 50.350(h), 5/3/02]

5.7 Reporting -

- a. Report as excess emissions, in accordance with condition 45, whenever the fuel combusted causes sulfur compound emissions to exceed the standard of condition 5.
- b. Include copies of the records required by condition 5.6 with the facility operating report required by condition 47.

[18 AAC 50.350(i), 1/18/97]

Sources Subject to Federal New Source Performance Standards, Subpart A

6. **NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of Source IDs 3, 4, 5, 11 and 12, and any malfunctions of associated air-pollution control equipment, and any periods during which a continuous monitoring system or monitoring device for Source IDs 3, 4, 5, 11 and 12 is inoperative.

[18 AAC 50.040(a)(1), 7/2/00 & 18 AAC 50.350(h), 5/3/02]

[40 C.F.R. 60.7(b), Subpart A, 7/1/99]

7. **NSPS Subpart A, Good Air Pollution Control Practice.** At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate Source IDs 3, 4, 5, 11 and 12 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The department will determine whether acceptable operating and maintenance procedures are being used based on information available to the department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of Source IDs 3, 4, 5, 11 and 12.

[18 AAC 50.040(a)(1), 7/2/00]

[40 C.F.R. 60.11(d), Subpart A, 7/1/99]

8. **NSPS Subpart A, Concealment of Emissions.** The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in conditions 9, 10, and 10.3. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1), 7/2/00]

[40 C.F.R. 60.12, Subpart A, 7/1/99]

Turbines Subject to NSPS Subpart GG

- 9. NSPS Subpart GG NO_x Standard.** The permittee shall not allow the exhaust gas concentration of NO_x from Source IDs 11 and 12 to exceed 166 ppmv at 15 percent O₂ dry exhaust basis.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 CFR 60.332(a)(2), Subpart GG 7/1/99]

- 9.1 Sources IDs 11 and 12 that are normally fired with natural gas are exempt from condition 9 when firing emergency fuel. Emergency fuel is fuel fired by a gas turbine only during circumstances such as natural gas supply curtailment or breakdown of delivery system that make it impossible to fire natural gas in the gas turbine.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 CFR 60.332(k), Subpart GG, 7/1/99]
[40 CFR 60.334(c)(4), Subpart GG, 7/1/99]

9.2 Monitoring.

- a. **Waivers.** The permittee shall provide to the department a written copy of any U.S. EPA granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules upon request by the department. The permittee shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit.

b. **Periodic Testing.**

- (i) **Initial Periodic Testing.** For each turbine subject to condition 9 that operates for 400 hours or more in any 12-month period during the life of this permit, the permittee shall satisfy either condition 9.2b(i)(a) or 9.2b(i)(b).

- (a) For existing turbines not represented by emission data described in condition 9.2b(i)(b), the permittee shall conduct a NO_x and O₂ source test under 40 C.F.R. 60, Appendix A-7, Method 20 within three years after issuance of this permit

(i) for each turbine, or

(ii) on one turbine to represent a group of turbines, if allowed to do so under condition 9.2c.

- (b) If a test following 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the department has been conducted on a turbine within two years before the issuance date of this permit, and the test shows that emissions at maximum load are less than 90 percent of the emission limit in condition 9, then

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- (i) the permittee may use those test results to represent emissions from that turbine or for a group of turbines if allowed under condition 9.2c until the testing of condition 9.2b(i)(b)(ii) is performed; and
 - (ii) the permittee shall conduct a Method 20 test on each turbine, or on one of a group of turbines as allowed under condition 9.2c, within the 5 years of the permit term.
 - (ii) **Higher Tier Testing.** For each turbine with test results under condition 9.2b(i) that are 90 percent or more of the emission limit of condition 9, or for which emissions will equal or exceed 90 percent of the emission limit at maximum load, as shown through condition 9.2d, the permittee shall conduct an additional Method 20 test for the turbine within one year of the test under condition 9.2b(i). The permittee shall conduct at least one additional test per year until at least two consecutive tests show that emissions for the turbine are less than 90 percent of the limit at loads up to maximum load.
 - c. **Substituting Test Data.** The permittee may use a Method 20 test under conditions 9.2b(i) or 9.2b(ii) performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if
 - (i) the permittee demonstrates that test results are less than 90 percent of the emission limit of condition 9 and are projected under condition 9.2d to be less than 90 percent of the limit at maximum load;
 - (ii) for any source test done after the issuance date of this permit, the permittee identifies in a source test plan under condition 37.
 - (a) the turbine to be tested;
 - (b) the other turbines in the group that are to be represented by the test; and
 - (c) why the turbine to be tested is representative, including that each turbine in the group
 - (i) is located at a facility operated and maintained by the Permittee;
 - (ii) is the same make and model and has identical injectors and combustor;
 - (iii) uses the same fuel type; and
 - (iii) for any source test done before the issuance date of this permit and used under condition 9.2b(i)(b), the permittee

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- (a) demonstrates why the test results are representative of emissions from the entire group of turbines, including that each turbine in the group
 - (i) is located at a facility operated and maintained by the permittee;
 - (ii) is the same make and model and has identical injectors and combustor;
 - (iii) uses the same fuel type; and
 - (b) submits all results of source testing that has been performed on each turbine in the group, regardless of the date of the test, and certifies that the submittal is complete, consistent with 18 AAC 50.205.

d. **Load.**

- (i) The permittee shall conduct all tests under condition 9.2b in accordance with 40 C.F.R. 60.335(c)(3), except as otherwise approved in writing by the department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and facility operating conditions in effect at the time of the test.
- (ii) The permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO_x emissions are expected.
- (iii) If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the test data,
 - (a) for each such turbine the permittee shall provide to the department as an attachment to the source test report
 - (i) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and
 - (ii) a demonstration based on the additional test information that projects the test results from condition 9.2b to predict the highest load at which emissions will comply with the limit in condition 9;
 - (b) the permittee shall not operate any turbine represented by the test data at loads for which the permittee's demonstration predicts that emissions will exceed the limit of condition 9;

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- (c) the permittee shall comply with a written finding prepared by the department that
 - (i) the information is inadequate for the department to reasonably conclude that compliance is assured at any load greater than the test load, and that the permittee must not exceed the test load;
 - (ii) the highest load at which the information is adequate for the department to reasonably conclude that compliance assured is less than maximum load, and the permittee must not exceed the highest load at which compliance is predicted, or
 - (iii) the permittee must retest during a period of greater expected demand on the turbine; and
 - (d) the permittee may revise a load limit by submitting results of a more recent Method 20 test done at a higher load, and, if necessary, the accompanying information and demonstration described in condition 9.2d(iii)(a); the new limit is subject to any new department finding under condition 9.2d(iii)(c) and
 - (iv) In order to perform a Method 20 emission test, the permittee may operate a turbine at a higher load than that prescribed by condition 9.2d(iii).
 - (v) For the purposes of conditions 9.2a through 9.4, maximum load means the hourly average load that is the smallest of
 - (a) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;
 - (b) the highest load allowed by an enforceable condition that applies to the turbine; or
 - (c) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

9.3 Recordkeeping.

- a. The permittee shall comply with the following for each turbine for which a demonstration under condition 9.2d(iii) does not show compliance with the limit of condition 9 at maximum load.
 - (i) The permittee shall keep records of
 - (a) load; or

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- (b) as approved by the department, surrogate measurements for load and the method for calculating load from those measurements.
 - (ii) Records in condition 9.3a shall be hourly or otherwise as approved by the department.
 - (iii) Within one month after submitting a demonstration under condition 9.2d(iii)(a)(ii) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a department finding under condition 9.2d(iii)(c), whichever is earlier, the permittee shall propose to the department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The permittee shall comply with any subsequent department direction on the load monitoring methods, equipment, or schedule.
- b. For any turbine subject to condition 9, that will operate less than 400 hours in any 12 consecutive months, keep monthly records of the hours of operation. If a turbine that normally operates less than 400 hours exceeds that total during any 12 month period,
- (i) test according to condition 9.2b; or
 - (ii) if it is no longer possible to meet that schedule, test within one year of exceeding 400 hours in 12 consecutive months.

9.4 **Reporting.**

- a. In each facility operating report under condition 47 the permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the permittee must limit load under condition 9.2d(iii)
 - (i) the load limit;
 - (ii) the turbine identification; and
 - (iii) the highest load recorded under condition 9.3a during the period covered by the operating report.
- b. In each facility operating report under 47 for each turbine for which condition 9.2b has not been satisfied because the turbine normally operates less than 400 hours in any 12 months, the permittee shall identify
 - (i) the turbine;
 - (ii) the highest number of operating hours for any 12 months ending during the period covered by the report; and

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- (iii) any turbine that operated for 400 or more hours.
- c. The permittee shall report under condition 45 if
- (i) a test result exceeds the emission standard;
 - (ii) Method 20 testing is required under condition 9.2b or 9.3b but not performed, or
 - (iii) the turbine was operated at a load exceeding that allowed by conditions 9.2d(iii)(b) and 9.2d(iii)(c); exceeding a load limit is deemed a single violation rather than a multiple violation of both monitoring and the underlying emission limit.

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 7/2/00]
[40 CFR 60.8(b), 7/1/99]

10. NSPS Subpart GG Sulfur Standard. The permittee shall comply with **either** the SO₂ standard in condition 10.a, **or** the fuel sulfur content standard in condition 10.b below:

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.333, Subpart GG, 7/1/99]

- a. do not allow the exhaust gas concentration of SO₂ from Source IDs 3, 4, 5, 11 and 12 to exceed 150 ppmvd corrected to 15 percent O₂, or
- b. do not allow the sulfur content for the fuel burned in Source IDs 3, 4, 5, 11 and 12 to exceed 0.8 percent by weight.

[40 C.F.R. 60.333(a), Subpart GG, 7/1/99]

[40 C.F.R. 60.333(b), Subpart GG, 7/1/99]

10.2 For liquid fuels, determine the sulfur content of the fuel using ASTM D 2880-71.

10.3 The permittee shall monitor the sulfur content of the natural gas at least semi-annually using the length-of-stain detector tube protocol covered by ASTM Method D 4810-88 and D 4913-89.

[40 C. F. R. 60.334(b)(2), Subpart GG; 7/1/99]
[EPA Alternative Monitoring Schedule issued 9/23/98]

- a. Analysis for fuel sulfur content of the gas turbine fuel shall be conducted using the appropriate methods specified in 40 CFR 60.335(d).
- b. The length-of-stain tube method is approved as an alternative fuel sulfur test method for this custom fuel monitoring schedule, providing that the ASTM procedures are followed.
- c. Fuel sulfur content monitoring shall be conducted on a biweekly basis (twice per month) for the first six months after the receipt of this letter.

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- d. If, after completion of the six months of monitoring specified in 10.3c, the fuel sulfur content monitoring results show little variability and there is consistent compliance with 40 CFR 60.333, fuel sulfur content may be monitored on a quarterly basis for the next six calendar quarters. This quarterly monitoring shall be conducted during the first regular business day of each quarter.

10.4 If, after completion of the six months of monitoring specified in 10.3c the fuel sulfur content monitoring results show little variability and there is consistent compliance with 40 CFR 60.333, fuel sulfur content may be monitored on a semi-annual basis. This semi-annual monitoring shall be conducted during the first regular business day of the first and third calendar quarters.

10.5 Should any fuel sulfur monitoring, as specified by conditions 10.3c, 10.3d and 10.4 indicate noncompliance with 40 CFR 60.333, the permittee shall notify EPA and the Alaska Department of Environmental Conservation within 15 days of the occurrence(s). Fuel sulfur monitoring shall be conducted weekly during the interim period while the custom schedule is being re-examined by EPA.

[18 AAC 50.350(g)-(i), 5/3/02]

[40 CFR 60.334(b)(2), Subpart GG, 7/1/99]

[EPA Alternative Monitoring Schedule issued 9/23/98]

11. The permittee shall maintain records for all sulfur monitoring data for Source IDs 3, 4, 5, 11 and 12.

11.1 The permittee shall maintain a record documenting a constant supplier or source of fuel. A substantial change in fuel quality shall be considered as a change in fuel supply.

11.2 The permittee shall maintain a record of all turbine operations on fuels other than pipeline quality gas.

11.3 All records shall be maintained on-site for a period of 5 years from the generation of such records.

[18 AAC 50.350(g)-(i), 5/3/02]

[40 CFR 60.334(b)(2), Subpart GG, 7/1/99]

[EPA Alternative Monitoring Schedule issued 9/23/98]

12. The permittee shall annually report results of all sulfur monitoring.

12.1 The permittee shall report any changes of supplier or source of fuel within 60 days of such a change.

12.2 The permittee shall report use of any fuel other than 100% pipeline-quality natural gas within 60 days of such use.

[18 AAC 50.350(g)-(i), 5/3/02]

[40 CFR 60.334(b)(2), Subpart GG, 7/1/99]

13. Report per condition 45 when the emission limits in conditions 9 or 10 are exceeded.

[18 AAC 50.350(i), 1/18/97]

[18 AAC 50.040(a)(2)(V), 7/2/00]

[40 C.F.R. 60.333(a) & (b), Subpart GG, 7/1/99]

Section 6. Facility-Wide Requirements

PSD Avoidance Limits

The permittee requested conditions 14 in order to avoid classification as a Prevention of Significant Deterioration Major Facility.

Nitrogen Compound Emissions

- 14.** The permittee shall limit the facility emissions of nitrogen oxides to no more than 249 tons in any consecutive twelve-month period by limiting the operations for Source IDs 18 and 21 as shown in Table 2:

Table 2 Owner Requested Limits

Source ID	Source Description	Limit in any consecutive 12-month period*
18	Emergency Generator	100 Hrs for non-emergencies
21	Well Test Flare	100 MMCF gas

*Owner Requested Limits Source IDs 18 & 21

[18 AAC 50.350(e)(3), 1/18/97]

[AQC Permit 9523-AA003, as amended through 1/16/96]

- 14.1 Maintain a monthly log for Source ID 18 showing the number of operating hours each month and the total hours in the previous consecutive twelve-month period.

[18 AAC 50.350(g)-(h), 5/3/02]

- 14.2 Maintain a monthly log for Source ID 21 showing the number of million cubic feet of gas burned each month and the total cubic feet burned in the previous consecutive twelve-month period.

[18 AAC 50.350(g)-(h), 5/3/02]

- 14.3 Submit summaries of the records of conditions 14.1 and 14.2 under condition 47.

[18 AAC 40.350(i), 1/18/97]

- 14.4 Report under condition 45 whenever the operating hours of Source ID 18 exceeds the limits in condition 14.

[18 AAC 40.350(i), 1/18/97]

- 14.5 Report under condition 45 whenever the gas consumption of Source ID 21 exceeds the limit in condition 14.

[18 AAC 40.350(i), 1/18/97]

HAPs Emissions

- 15. HAPs Emissions Controls.** The permittee shall install an emission control system for Source IDs 22, 23, 24, and 25 to reduce facility-wide hazardous air contaminants (HAPS) to less than ten tons/yr for any single hazardous air contaminant and less than 25 tons/yr in the aggregate of two or more hazardous air contaminants by December 31, 2004.

[40 CFR 63.760(f)(1) - Subpart HH, 6/17/99]

[18 AAC 50.040(a) & 50.040(c)(1) & 50.040(c)(13), 1/18/97]

- 15.1 The permittee shall submit a progress report on the installation of HAPs emission controls with each operating report, required under condition 47, after the effective date of the permit.
- 15.2 Beginning January 1, 2005 the permittee shall submit with each operating report required under condition 47, calculations and supporting data for each of the months in the reporting period, demonstrating that KGF Pad 14-6 operated below the emission limits in condition 15.
- 15.3 No later than January 1, 2005, the permittee shall maintain an operation and maintenance schedule, available to the department upon request, for equipment that ensures control of emissions below the HAPs major thresholds.
- 15.4 The permittee shall report as excess emissions, in accordance with condition 45, if the emission limits in condition 15 are exceeded.

[18 AAC 50.350(g)-(i), 5/3/02]

- 16. Hazardous Air Pollutant (HAP) Reconstruction.** Before replacing components of either a “major source” as that term is defined in 40 C.F.R. 63.2 or a source that would become a “major source” as a result of replacement, where the cost of replacement exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source, but does not exceed 50 percent of the fixed capital cost that would be required to construct the entire facility, the permittee shall obtain written approval from the department:

- 16.1 under 40 C.F.R. 63.5(b)(3), (d), and (e), if the source is subject to an emission standard of 40 C.F.R. 63, adopted by reference in 18 AAC 50.040(c)(1)(C), or
- 16.2 in a Notice of MACT Approval under 40 C.F.R. 63.43(f) – (h), if the source is subject to 40 C.F.R. 63.43(a), each adopted in reference by 18 AAC 50.040(c).

[18 AAC 50.346(d), 5/3/02]

Section 7. *Insignificant Sources*

This section contains the requirements that the permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, reporting, and recordkeeping for insignificant sources that the department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement, except that the requirements of conditions 45 and 47 do not apply to this section.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant sources.

- 17.** For sources at the facility that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:

17.1 the permittee shall submit the compliance certifications of condition 48 based on reasonable inquiry;

17.2 the permittee shall comply with the requirements of condition 28;

17.3 the permittee shall report in the operating report required by condition 47 if a source listed in condition 17, because of actual emissions less than the thresholds of 18 AAC 50.335(r), has actual emissions greater than any of those thresholds;

17.4 no other monitoring, recordkeeping, or reporting is required.

[18 AAC 50.346(b)(1), 5/3/02]

- 18.** The permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from insignificant sources to reduce visibility through the exhaust effluent by any of the following:

18.1 greater than 20 percent for a total of more than three minutes in any one hour²,

[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97 & 40 CFR 52.70, 11/18/98]

18.2 more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1), 5/3/02]

- 19.** The permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

- 20.** The permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

² See footnote 1

Section 8. Generally Applicable Requirements

- 21. Asbestos NESHAP.** The permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1)(A), 1/18/97]
[40 CFR 61, Subparts A & M and Appendix A, 12/19/96]

- 22. Refrigerant Recycling and Disposal.** The permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 18 AAC 50.350(d)(1)(A), 1/18/97]
[40 CFR 82, Subpart F, 7/1/97]

- 23. Good Air Pollution Control Practice.** The permittee shall do the following for Source IDs 18, 19, 20 and 21:

- a. Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- b. Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;
- c. Keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030 & 50.346(b)(2), 5/3/02 & 18 AAC 50.350(f)(2) & (3), 1/18/97]

- 24. Dilution.** The permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

- 25. Reasonable Precautions to Prevent Fugitive Dust.** A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.045(d) & 50.350(g), 1/18/97 & 18 AAC 50.040(e), 7/2/00]

25.1 The permittee shall keep records of

- a. complaints received by the permittee and complaints received by the department and conveyed to the permittee; and
- b. any additional precautions that are taken
 - (i) to address complaints described in condition 25.1 or to address the results of department inspections that found potential problems; and
 - (ii) to prevent future dust problems.

[18 AAC 50.350(h), 5/3/02]

25.2 The permittee shall report according to condition 28.

[18 AAC 50.350(i), 1/18/972]

26. Stack Injection. The permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the department.

[18 AAC 50.055(g), 1/18/97]

27. Open Burning. The permittee shall comply with the following requirements when conducting open burning at the facility.

27.1 Open burning of asphalt, rubber products, plastics, tars, oils, oily wastes, contaminated oil cleanup materials, or other materials in a way that gives off black smoke is prohibited without written approval of the department in accordance with the procedures set forth in 18 AAC 50.065.

[18 AAC 50.065(b) & 18 AAC 50.350(d)(1)(D), 1/18/97]

27.2 Open burning or incineration of pesticides, halogenated organic compounds, cyanic compounds, or polyurethane products in a way that gives off toxic or acidic gases or particulate matter is prohibited.

[18 AAC 50.065(c) & 18 AAC 50.350(d)(1)(D), 1/18/97]

27.3 Open burning of putrescible garbage, animal carcasses, or petroleum-based materials, including materials contaminated with petroleum or petroleum derivatives, is prohibited if it causes odor or black smoke that has an adverse effect on nearby persons or property.

[18 AAC 50.065(d) & 18 AAC 50.350(d)(1)(D), 1/18/97]

27.4 Open burning is prohibited in an area if the department declares an air quality advisory under 18 AAC 50.245, stating that open burning is not permitted in that area for the day.

[18 AAC 50.040(e), 7/2/00, 18 AAC 50.065(e) & 18 AAC 50.350(d)(1), 1/18/97]

27.5 When conducting open burning, the permittee shall ensure that

- a. the material is kept as dry as possible through the use of cover or dry storage;
- b. before igniting the burn, noncombustibles are separated to the greatest extent practicable;
- c. natural or artificially induced draft is present;
- d. to the greatest extent practicable, combustibles are separated from grass or peat layer;
- e. combustibles are not allowed to smolder; and

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- f. sufficient written records are kept to demonstrate that the permittee complies with the limitations in this condition. Upon request of the department, submit copies of the records.

[18 AAC 50.065, 18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.350(g) – (h), 5/3/02]

28. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72; 18 AAC 50.040(e), 7/2/00 & 18 AAC 50.346(a)(2), 5/3/02]

- 28.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to condition 45
- 28.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of condition 28.
- 28.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
 - a. after an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of condition 28, or
 - b. the department notifies the permittee that it has found a violation of condition 28.

[18 AAC 50.240(c) & 18 AAC 50.350(g), 1/18/97]

- 28.4 The permittee shall keep records of
 - a. the date, time, and nature of all emissions complaints received;
 - b. the name of the person or persons that complained, if known;
 - c. a summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of condition 28; and
 - d. any corrective actions taken or planned for complaints attributable to emissions from the facility.
- 28.5 With each facility operating report under condition 47, the permittee shall include a brief summary report which must include
 - a. the number of complaints received;
 - b. the number of times the permittee or the department found corrective action necessary;

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- c. the number of times action was taken on a complaint within 24 hours; and
 - d. the status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

28.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2) & 50.350(g) - (i), 5/3/02]

29. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard³ listed in condition 22 the permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under condition 45 requires information on the steps taken to minimize emissions. The report required under condition 43 is adequate monitoring for compliance under this condition.

[18 AAC 50.235(a) & 18 AAC 50.350(f)(3), 1/18/97]

30. Permit Renewal. To renew this permit, the permittee shall submit a complete application under 18 AAC 50.335 no sooner than July 14, 2006 and no later than July 16, 2007 to renew this permit.

[18 AAC 50.335(a), 1/18/97]

³ *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Section 9. General Source Testing and Monitoring Requirements

- 31. Requested Source Tests.** In addition to any source testing explicitly required by this permit, the permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 18 AAC 50.345(a)(10), 1/18/97]

- 32. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing

32.1 At a point or points that characterize the actual discharge into the ambient air; and

32.2 At the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b) & 18 AAC 50.350(g), 1/18/97]

- 33. Reference Test Methods.** The permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

33.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 7/2/00, 18 AAC 50.220(c)(1)(A) & 18 AAC 50.350(g), 1/18/97]
[Federal Citation: 40 C.F.R. 60, 7/1/99]

33.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 18 AAC 50.220(c)(1)(B) & 18 AAC 50.350(g), 1/18/97]
[Federal Citation: 40 C.F.R. 61, 12/19/96]

33.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 7/2/00; 18 AAC 50.220(c)(1)(C) & 18 AAC 50.350(g), 1/18/97]
[Federal Citation: 40 C.F.R. 63, 7/1/99]

33.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9.

[18 AAC 50.030, 12/30/00; 18 AAC 50.220(c)(1)(D) & 18 AAC 50.350(g), 1/18/97]

33.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 7/2/00 18 AAC 50.220(c)(1)(E) & 18 AAC 50.350(g), 1/18/97]

[Federal Citation: 40 C.F.R. 60, Appendix A, 7/1/99]

33.6 **Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.**

[18 AAC 50.035, 7/2/00; 18 AAC 50.220(c)(1)(F) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 51, Appendix M, 7/1/99]

33.7 **Source testing for emissions of any contaminant may be determined using an alternative method approved by the department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.**

[18 AAC 50.040(c), 7/2/00, 18 AAC 50.220(c)(2) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 63, Appendix A, Method 301, 7/1/99]

34. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 70° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 18 AAC 50.350(g) & 18 AAC 50.990(88), 1/18/97]

35. **Test Exemption.** The permittee is not required to comply with conditions 37, 38 and 39 when the exhaust is observed for visible emissions by the Method 9 Plan in condition 59.1 or the Smoke/No Smoke Plan in condition 59.2.

[18 AAC 50.345(a), 5/3/02]

36. **Test Deadline Extension.** The permittee may request an extension to a source test deadline established by the department. The permittee may delay a source test beyond the original deadline only if the department's appropriate division director or designee approves the extension in writing.

[8 AAC 50.345(a) & (l), 5/3/02]

37. **Test Plans.** Before conducting any source tests, the permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the permittee will document this operation. A complete plan must be submitted within 60 days of receiving a request under condition 31 and at least 30 days before the scheduled date of any tests.

[18 AAC 50.345(a)(10), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g), 1/18/97]

38. **Test Notification.** At least 10 days before conducting a source test, the permittee shall give the department written notice of the date and time the source test will begin.

[18 AAC 50.345(a)(10)(C) & 18 AAC 50.350(b)(3), 1/18/97]

39. **Test Reports.** Within 45 days after completing a source test, the permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3 of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The permittee shall certify the results as set out in condition 41.

[18 AAC 50.345(a)(10)(D), 18 AAC 50.350(b)(3) & 18 AAC 50.350(h) – (i), 1/18/97]

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- 40. Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in conditions 4 and 18, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f) & 50.350(g), 1/18/97]

Section 10. General Recordkeeping, Reporting, and Compliance Certification Requirements

- 41. Certification.** The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.” Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal. When certifying a compliance certification, the official’s signature must be notarized.

[18 AAC 50.205 and 50.350(b)(3) & (j), 1/18/97; and 18 AAC 50.345(a) & (j), 5/3/02]

- 42. Submittals.** Unless otherwise directed by the department or this permit, the permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

[18 AAC 50.350(i), 1/18/97]

- 43. Information Requests.** The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by the permit. The department may require the permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 18 AAC 50.345(a)(8), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g) – (i), 1/18/97]

- 44. Recordkeeping Requirements.** The permittee shall keep all records required by this permit for at least five years after the date of collection, including

44.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

44.2 Records of all monitoring required by this permit, and information about the monitoring including

- a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
- b. sampling dates and times of sampling or measurements;
- c. the operating conditions that existed at the time of sampling or measurement;
- d. the date analyses were performed;
- e. the location where samples were taken;

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- f. the company or entity that performed the sampling and analyses;
 - g. the analytical techniques or methods used in the analyses; and
 - h. the results of the analyses.

[18 AAC 50.350(h), 5/3/02]

45. Excess Emission and Permit Deviation Reports.

45.1 Except as provided in condition 28, the permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
 - (i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in conditions 45.1c(ii) and 45.1c(iii);
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under condition 45.1c(i); and
 - (iii) for failure to monitor, as required in other applicable conditions of this permit.

45.2 When reporting excess emissions, the permittee must report using either the department's online form, which can be found at www.dec.state.ak.us/awq/excess/report.asp, or if the permittee prefers, the form contained Section 15 of this permit. The permittee must provide all information called for by the form that is used.

45.3 When reporting a permit deviation, the permittee must report using the form contained in Section 15 of this permit. The permittee must provide all information called for by the form.

[18 AAC 50.235(a)(2), 50.240(c) & 50.350(i), 1/18/97; and 18 AAC 50.346(c), 5/3/02]

46. NSPS and NESHAP Reports. The permittee shall submit to the department copies of reports required by conditions 12 and 21 as they apply to the facility as follows:

- 46.1 attach to the facility operating report required by condition 47, a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 as required by conditions 9, 10, 12, 15, and 21.
- 46.2 upon request by the department, notify and provide a written copy of any EPA-granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.

[18 AAC 50.040, 7/2/00 & 18 AAC 350(i)(2), 1/18/97]
[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

47. Operating Reports. During the life of this permit, the permittee shall submit an original and two copies of an operating report by August 1 for the period January 1 to June 30 and by February 1 for the period July 1 to December 31 of the previous year.

- 47.1 The operating report must include all information required to be in the operating reports by other conditions of this permit.
- 47.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 47.1, either
 - a. The permittee shall identify
 - (i) the date of the deviation;
 - (ii) the equipment involved;
 - (iii) the permit condition;
 - (iv) a description of the deviation; and
 - (v) any corrective action or preventive measures taken and the date of such actions; or
 - b. When excess emissions or permit deviations have already been reported under condition 45 the permittee may cite the date or dates of those reports.

47.3 The operating report must include a listing of emissions monitored under conditions 9 and 57, which trigger additional testing or monitoring, whether or not the emissions monitored, exceed an emission standard. The permittee shall include in the report

- a. the date of the emissions;
- b. the equipment involved;
- c. the permit condition affected; and
- d. the monitoring result which triggered the additional monitoring.

[18 AAC 50.350(d)(4), 50.350(f)(3) & 18 AAC 50.350(i) 1/18/97 and 18 AAC 50.346(b)(3), 5/3/02]

48. Annual Compliance Certification. Each year by March 31, the permittee shall compile and submit to the department an original and two copies of an annual compliance certification report as follows:

[18 AAC 50.350(j), 1/18/97]

48.1 For each permit term and condition set forth in Section 3 through Section 10, including terms and conditions for monitoring, reporting, and recordkeeping:

[18 AAC 50.350(d)(4), 1/18/97]

- a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;
- b. state whether compliance is intermittent or continuous; and
- c. briefly describe each method used to determine the compliance status.
- d. notarize the responsible official's signature.

[18 AAC 50.205, 1/18/97 & 50.345(a) & (j), 5/3/02]

48.2 In addition, submit a copy of the report directly to the U.S. EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

Section 11. Standard Conditions Not Otherwise Included in the Permit

- 49.** The permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

49.1 an enforcement action,

49.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

49.3 denial of an operating-permit renewal application.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (c), 5/3/02]

- 50.** It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (d), 5/3/02]

- 51.** Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (e), 5/3/02]

- 52.** Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

52.1 included and specifically identified in the permit, or

52.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (b), 5/3/02]

- 53.** The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (f), 5/3/02]

- 54.** The permit does not convey any property rights of any sort, nor any exclusive privilege.

18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (g), 5/3/02]

- 55.** The permittee shall allow an officer or employee of the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

55.1 enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept,

55.2 have access to and copy any records required by the permit,

-
- 55.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and
- 55.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (h), 5/3/02]

Section 12. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290 and based on information supplied in the facility application this section of the permit contains the requirements determined by the department not to be applicable to Kenai Gas Field Pad 14-6.

- 56.** Table 3 identifies the sources that are not subject to the specified requirements at the time of permit issuance. Some of the requirements listed below may become applicable during the permit term due to an invoking event, even though the requirement is deemed inapplicable at the time of permit issuance.

[18 AAC 50.350(l), 1/18/97]

Table 3 Permit Shields Granted

Source ID	Non Applicable Requirements	Reason for non-applicability
3,4,5,11,12	40 C.F.R. 60 Subpart A 60.7(a)(1), (a)(2), (a)(3), (a)(5), (a)(7), & 60.8	Sources completed start-up and do not require water injection or continuous monitoring
3,4,5,11,12	40. C. F. R. 60, Subpart 332(a)(1)	Not an electric utility turbine
3, 4, 5	40 CFR 60.332(a)	40 CFR 60.332(e). Sources 3, 4, and 5 commenced construction prior to October 3, 1982 and have not been modified or reconstructed.
3,4,5,11,12	Old permit engine limits	New engine limits
3,4,5,11,12	40. C. F. R. 60.332(k) as it applies to 332(a)(2)	Diesel fuel is an emergency fuel, not subject to this sections when using diesel fuel
3,4,5,11,12	40. C. F. R. 60.333(a)	Permittee choose to comply with 40 C. F. R. 60.333(b)
3,4,5,11,12	40. C. F. R. 60.334(a) and 334(c)(1)	Not an affected facility, no water injection
Facility	40 C.F.R. 60 Subparts B, C, Ca, Cb, F, G, H, I, J, M, N, Na, O, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, EE, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, BBB, DDD, FFF, GGG, HHH, III, JJJ, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, and VVV	Not an affected facility, operation, or industry

Source ID	Non Applicable Requirements	Reason for non-applicability
Facility	40 C.F.R. 60 Subparts D, Da, Db, Dc, E, Ea, Eb, K, Ka, Kb, L, P, Q, R, DD, and AAA	No affected sources within facility
Facility	40 C.F.R. 60 Subparts KKK and LLL	Not an affected facility, operation, or industry
Facility	40 C.F.R. 61 Subparts B, C, D, E, F, H, I, K, L, N, O, P, Q, R, T, W, Y, BB, and FF	Not an affected facility, operation, or industry
Facility	40 C.F.R. 61 Subpart J	Facility does not contain any equipment in benzene service
Facility	40 C.F.R. 61 Subparts A and V	Per 40 CFR 61.01(c) and 61.240(b), a facility must be subject to a specific subpart of 40 CFR 61 to be subject to these subparts
Facility	40 C.F.R. 63 Subparts F, G, M, O, R, T, W, X, EE, HH and HHH	Not an affected facility, operation, or industry. However, dehydration equipment at KGF Pad 14-6 must become an area source before the substantive compliance date of December 31, 2004, to avoid being subject to Subpart HH.
Facility	40 C.F.R. 63 Subpart L, N, and Q	No affected sources within facility
Facility	40 C.F.R. 63 Subpart H	No affected sources within facility
Facility	40 C.F.R. 68 Subpart G	Not an affected facility, operation, or industry
Facility	40 C.F.R. 82 Subparts B and F	Drilling Rig does not contain any commercial or household appliances. Motor vehicles are not serviced at the facility
Facility	18 AAC 50.050, Incinerator particulate standards	No affected sources within facility
Facility	18 AAC 50.050(a)(2), Fuel Burning equipment standards, opacity emission limit of 30%, 3-minute average	No affected sources within facility
Facility	18 AAC 50.055(a)(4), (5) and (8), Fuel burning equipment standards, opacity emission limit of 20%, 6-minute average	No affected sources within facility

Source ID	Non Applicable Requirements	Reason for non-applicability
Facility	18 AAC 50.055(a)(6) and (7), Fuel burning equipment standards, opacity emission limit of 10%, 6-minute average	No affected sources within facility
Facility	18 AAC 50.055(b)(2) and (3), Fuel burning equipment standards, PM emission limit of 0.1 grains	No affected sources within facility
Facility	18 AAC 50.055(b)(4), Fuel burning equipment standards, PM emission limit of 0.15 grains	No affected sources within facility
Facility	18 AAC 50.055(b)(5) and (6), Fuel burning equipment standards, PM emission limit of 0.04 grains	No affected sources within facility
Facility	18 AAC 50.055(d) and (e), Fuel burning equipment standards	No affected sources within facility
Facility	18 AAC 50.060, Pulp Mills	Not an affected facility, operation or industry
Facility	18 AAC 50.070 Marine Vessels, visible emission standards	Facility is more than 3 miles from shore
Facility	18 AAC 50.075, Wood fired heating device emission standards	No affected sources within facility
Facility	18 AAC 50.085, Volatile liquid storage tank emission standards	Regulations only apply to tanks within the Port of Anchorage
Facility	18 AAC 50.090 Volatile liquid loading racks and delivery emission standards	Regulations only apply to facilities within the Port of Anchorage

Section 13. Visible Emissions and Particulate Matter Monitoring Plan

For Gas Fired Sources Other Than Flares (Source IDs 3, 4, 5, 11, 12, and 21)

57. Visible Emissions: Monitoring, Record Keeping, and Reporting.

57.1 The permittee shall use only natural gas as fuel in Source ID(s) 3, 4, 5, 11, 12, and 21. The permittee shall certify in each operating report required under condition 47 that the source burned only natural gas.

57.2 The permittee shall report under condition 45 if any fuel is burned other than natural gas.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

58. Particulate Matter Emissions: Monitoring, Recordkeeping, and Reporting. The permittee shall comply with condition 57.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

For Liquid-Fired Sources (Source IDs 18, 19 and 20)

59. Visible Emissions Monitoring. The permittee shall observe the exhaust of Source IDs 18, 19 and 20 for visible emissions using either the Method 9 Plan under condition 59.1 or the Smoke/No-Smoke Plan under condition 59.2. The permittee may change visible emissions plans for a source at any time unless prohibited from doing so by condition 59.3.

[18 AAC 50.350(g), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

59.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

- a. First Method 9 Observation. Observe exhaust for 18 minutes within six months after the issue date of this permit or within 14 calendar days after changing from the Smoke/No-Smoke Plan of condition 59.2, whichever is later.
- b. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that a source operates.
- c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under condition 59.1b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, observe emissions at least semiannually for 18 minutes.

Semiannual observations must be taken between four and seven months after the previous set of observations.

-
- d. Annual Method 9 Observations. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, observe emissions at least annually.

Annual observations must be taken between 10 and 13 months after the previous observations and must include at least three 18-minute sets of observations.

- e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that source to at least monthly intervals, until the criteria in condition 59.1c for semiannual monitoring are met.

59.2 Smoke/No Smoke Plan. Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

- a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that a source operates.
- b. Reduced Monitoring Frequency. After the source has been observed on 30 consecutive operating days, if the source operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that a source operates.
- c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of condition 59.1 or perform the corrective action required under condition 59.3

59.3 Corrective Actions Based on Smoke/No Smoke Observations. If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of condition 59.2, then the permittee shall either follow the Method 9 plan of condition 59.1; or

- a. initiate actions to eliminate smoke from the source within 24 hours of the observation;
- b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and
- c. after completing the actions required under condition 59.3a,
- (i) take Smoke/No Smoke observations in accordance with condition 59.2
- (a) at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and

(b) continue as described in condition 59.2b; or

59.4 if the actions taken under condition 59.3a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of condition 59.3c(i)(a), then observe the exhaust using the Method 9 Plan unless the department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under condition 59.2a.

60. Visible Emissions Record Keeping. The permittee shall keep records in accordance with this condition.

[18 AAC 50.350(h) & 18 AAC 50.346(c), 5/3/02]

60.1 If using the Method 9 Plan of condition 59.1,

- a. the observer shall record
 - (i) the name of the facility, emissions source and location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in this Section;
 - (ii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
 - (iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;
 - (iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Record in this Section; and
 - (v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.
- b. to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;
- c. calculate and record the highest 18-consecutive-minute average observed.

60.2 If using the Smoke/No Smoke Plan of condition 59.2, record the following information in a written log for each observation and submit copies of the recorded information upon request of the department:

- a. the date and time of the observation;
- b. from Table 1 in Section 4, the ID of the source observed;
- c. whether visible emissions are present or absent in the exhaust;
- d. a description of the background to the exhaust during the observation;
- e. if the source starts operation on the day of the observation, the startup time of the source;
- f. name and title of the person making the observation; and
- g. operating rate (load or fuel consumption rate).

61. Visible Emissions Reporting. The permittee shall report visible emissions as follows:

61.1 include in each facility operating report under condition number 47:

- a. which visible-emissions plan of condition 59 was used for each source; if more than one plan was used, give the time periods covered by each plan;
- b. for each source under the Method 9 Plan,
 - (i) copies of the observation results (i.e. opacity observations) for each source that used the Method 9 Plan, except for the observations the permittee has already supplied to the department; and
 - (ii) a summary to include:
 - (a) number of days observations were made;
 - (b) highest six-minute average observed; and
 - (c) dates when one or more observed six-minute averages were greater than 20 percent;
- c. for each source under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and
- d. a summary of any monitoring or record keeping required under conditions 58 and 59 that was not done;

61.2 report under condition 45:

- a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
- b. if any monitoring under condition 59 was not performed when required, report within three days of the date that the monitoring was required.

[18 AAC 50.350(h) & 18 AAC 50.346(c), 5/3/02]

62. Particulate Matter Monitoring for Heaters and Boilers. The permittee shall conduct source tests on Source IDs 19 and 20 to determine the concentration of PM in the exhaust as follows:

62.1 Conduct a PM source test according to the requirements set out in Section 9 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions below the 15 percent and 20 percent opacity limits in condition 59.1e for two months in a consecutive six-month period.

62.2 The PM source test requirement in condition 62.1 is waived for an emission unit if:

- a. a PM source test during the most recent reporting period on that unit has shown compliance with the PM standard since permit issuance, or
- b. if a follow-up visible emission observation conducted using Method-9 during the 90 days shows that the excess visible emissions described in conditions 59.1e and 62.1 no longer occur.
- c. keep particulate matter monitoring records as required by condition 44.

[18 AAC 50.350(g)-(h), 5/3/02]

63. Particulate Matter Reporting for Heaters and Boilers. The permittee shall report on Source IDs 19 and 20 PM emissions as follows:

63.1 Include with the first facility operating report required by condition 47 copies of the records for Source IDs 19 and 20 required under condition 62.

63.2 Report excess emissions, in accordance with condition 45, any time the results of a source test for PM exceeds 0.05 gr/dscf.

[18 AAC 50.350(i), 1/18/97]

64. Particulate Matter Monitoring for Diesel Engines and Liquid-Fired Turbines. The permittee shall conduct source tests on diesel engines and liquid-fired turbines, Source ID 18 to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this condition 64.

[18 AAC 50.350(g)-(h), 5/3/02]

64.1 Within six months of exceeding the criteria of condition or either

-
- a. conduct a PM source test according to requirements set out in Section 9; or
 - b. make repairs so that emissions no longer exceed the criteria of condition 64.2 to show that emissions are below those criteria, observe emissions as described in condition 59.1 under load conditions comparable to those when the criteria were exceeded.

64.2 Conduct the test according to condition 64.1 if

- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or
- b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the department has waived this requirement in writing.

64.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

64.4 The automatic PM source test requirement in conditions 64.1 and 64.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

65. Particulate Matter Record Keeping for Diesel Engines and Liquid-Fired Turbines.

Within 180 calendar days after the effective date of this permit, the permittee shall record the exhaust stack diameter of Source ID 18. Report the stack diameter in the next operating report under condition 47.

[18 AAC 50.350(g) – (i), 5/3/02]

66. Particulate Matter Reporting for Diesel Engines and Liquid-Fired Turbines. The permittee shall report as follows:

66.1 report under condition 45

- a. the results of any PM source test that exceeds the PM emissions limit; or
- b. if one of the criteria of condition 64.2 was exceeded and the permittee did not comply with either condition 64.1a or 64.1b, this must be reported by the day following the day compliance with condition 64.1 was required;

66.2 report observations in excess of the threshold of condition 64.1b, within 30 days of the end of the month in which the observations occur;

66.3 in each facility operating report under condition 47, include

- a. the dates, Source ID(s), and results when an observed 18-minute average was greater than an applicable threshold in condition 64.2 ;
- b. a summary of the results of any PM testing under condition 64 ; and
- c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of condition 64.2, if they were not already submitted.

[18 AAC 50.346(c) & 50.350(g) – (i), 5/3/02]

Visible Emissions Observations for Flares (Source ID 21)

67. Visible Emissions Monitoring, Recordkeeping, and Reporting. The permittee shall observe six flare events⁴ occurring during the life of this permit⁵.

67.1 Monitor flare events using Method-9 or Smoke/No-Smoke.

67.2 Record the following information:

- a. the flare Source ID number;
- b. results of the Method-9 or Smoke/No-Smoke observations;
- c. reason(s) for flaring;
- d. date, beginning and ending time of event; and
- e. volume of gas flared.

67.3 Monitoring of a flare event may be postponed for safety or weather reasons, or because a qualified observer is not available. Until monitoring has been completed on the six flare events described in this condition, the permittee shall either monitor each qualifying flare event or include in the next report required by condition 47 an explanation of the reason the event was not monitored.

67.4 Attach copies of the records required by condition 67.2 with the facility operating report required by condition 47.

67.5 Report under condition 45 whenever the opacity standard in condition 3 is exceeded.

[18 AAC 50.350(g) – (i), 5/3/02]
[18 AAC 50.335(f)(4), 1/18/97]

⁴ For purposes of this permit, a “flare event” is flaring of gas for greater than one hour as a result of scheduled lease operations, i.e. maintenance or well testing activities. It does not include non-scheduled lease operations, i.e. process upsets, emergency flaring, or de minimis venting of gas incidental to normal operations.

⁵ Flare events monitored within 12-months prior to permit effective date may count towards the six-event total.

Visible Emissions Field Data Sheet

Certified Observer: _____

Company: _____

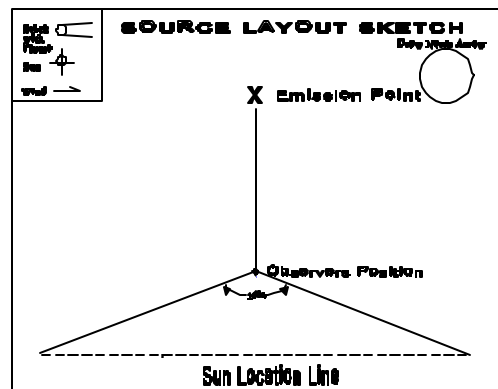
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate &
Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Page ____ of ____

Test Number _____ Clock time _____

[illegible]

Observer Signature

Duration of Observation Period (minutes) _____
 Number of Observations _____
 Number of Observations exceeding 20% _____

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of any fuel combusted is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO₂ using the following equations:

$$A = 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$B = 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$C = 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$D = 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$E = B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$F = 21 - [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$G = [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$H = 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$I = E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\text{SO}_2 \text{ concentration} = A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ PPM}$$

The **wt%*S*_{fuel}**, **wt%*C*_{fuel}**, and **wt%*H*_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 5. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%*O*_{2,exhaust}**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%*S*_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%*O*_{2,exhaust}** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

Section 15. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Marathon Oil Company

Company Name

Kenai Gas Field Pad 14-6

Facility Name

Reason for notification:

☐ **Excess Emissions**

*If you checked this box
Fill out section 1*

☐ **Other Deviation from Permit Condition**

*If you checked this box
fill out section 2*

When did you discover the Excess Emissions or Other Deviation:

Date: __/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock):

	START Time: (hr:min):	END Time:	Duration
Date: _____	_____:	_____:	_____:
Date: _____	_____:	_____:	_____:
		Total:	_____:

(b) Cause of Event (Check all that apply):

<input type="checkbox"/> START UP	<input type="checkbox"/> UPSET CONDITION	<input type="checkbox"/> CONTROL EQUIPMENT
<input type="checkbox"/> SHUT DOWN	<input type="checkbox"/> SCHEDULED MAINTENANCE	<input type="checkbox"/> OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

☐ YES ☐ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

☐ YES ☐ NO

Section 2. Other Permit Deviations

(a) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation
_____	_____
_____	_____
_____	_____

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Printed Name:

Signature:

Date:

Alaska Department of Environmental Conservation

Air Permits Program

December 16, 2002

Marathon Oil Company

Kenai Gas Field 14-6

STATEMENT OF BASIS

for the Terms and Conditions of

Permit No. 94TVP01

Prepared by Scott Bailey

INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. 94TVP01.

The Kenai Gas Field Pad 14-6 is a gas production facility that provides natural gas for industrial and domestic use. The facility is owned and operated by Marathon Oil Company. Marathon Oil Company is the permittee for the facility's operating permit.

PROCESS DESCRIPTION

As provided in the application, the facility contains five gas fired turbines, one diesel emergency generator, one gas fired heater, one gas fired boiler and a temporary well test flare.

The sources at the facility regulated in Operating Permit 94TVP01 are identified in Table 1 Source Inventory in Section 4 of the permit.

SOURCE INVENTORY AND DESCRIPTION

Section 4 of Operating Permit No. 94TVP01 contains Table 1 Source Inventory describing the sources regulated by the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in Table A is not intended to create an enforceable limit.

EMISSIONS

Table A. Emissions Summary

Pollutant	NO _x	CO	PM-10	SO ₂	VOC	HAPs (part of VOCs)
Potential Emissions (TPY) per AS 46.14.990(21)	247	128	9	15	48	(35)
Assessable Potential to Emit (TPY) under condition 1.2	247	128	0	15	48	(35)

The potential NO_x and CO emissions for Source IDs 11 and 12 are based on 1998 source tests. All other potential emissions for Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 are based on 1996 AP-42 emission factors. The HAPs emissions are based on a mixture of platform gases and using GRI-GLYCalc version 4.0.

The assessable potential to emit is simply those regulated air contaminants for which the facility has the potential to emit quantities greater than 10 tons per year and reflect owner requested limits on Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21.

BASIS FOR REQUIRING AN OPERATING PERMIT

Kenai Gas Field Pad 14-6 requires an operating permit because it has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant and was also classified as a major source for hazardous air pollutants (HAPs) in April 2002. Kenai Gas Field Pad 14-6 meets the definition of operating permit facility in the state regulations in Section 2.

Alaska regulations require operating permit applications to include identification of “regulated sources.” As applied to Kenai Gas Field Pad 14-6, the state regulations require a description of:

Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment [18 AAC 50.335(e)(4)(C)];

Each source subject to a standard adopted by reference in 18 AAC 50.040 [18 AAC 50.335(e)(2)]; and

Sources subject to requirements in an existing DEC permit [18 AAC 50.335(e)(5)]

The emission sources at Kenai Gas Field Pad 14-6 classified as “regulated sources” according to the above DEC regulations are listed in Table 1 of Permit No. 94TVP01.

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The most recent permit issued for this facility is Air Quality Permit number 9523-AA003. This permit-to-operate includes all construction authorizations issued through July 14, 1995, and was issued before January 18, 1997. Facility-specific requirements established in this previous permit, unless amended under 18 AAC 50.305(a)(3), are included in the new operating permit as described below.

Title-V Operating Permit Application History

The owner or operator submitted an application on October 14, 1997.

The owner or operator amended this application on September 28, 1998 when the US EPA granted Marathon an alternate Hydrogen Sulfide Sampling Method and Schedule under 40 C. F. R. 60 Subpart GG. A second amendment to the application was received on October 12, 2000. The department received major amendments to the application on August 13, 2001 and August 14, 2002.

COMPLIANCE HISTORY

The facility has operated at its current location since 1964. A review of the permit files for this facility, which includes the past inspection reports, indicate a facility which is generally in compliance with its operating permit. Marathon made modifications at KGF Pad 14-6 in 1985 and 1991, which did not trigger a PSD threshold increment. Marathon notified EPA and DEC in April 2002 that due to increased gas production at KGF Pad 14-6 the facility was now a "major" source of HAPs exceeding the 25 tpy (facility wide)/10 tpy (of a single HAP) thresholds. Marathon proposed federally enforceable terms/conditions in August 2002 for the HAPs sources and will install a HAPs emissions control system to achieve an area wide "minor" source status no later than December 31, 2004.

FACILITY-SPECIFIC REQUIREMENTS CARRIED FORWARD

18 AAC 50.350(d)(1)(D) requires that this permit include each facility specific requirement established in prior permit No. 9523-AA003. Table B below lists the old requirement (condition) and the new condition that carries over the old requirement into the new permit.

Table B. A comparison of pre-January 18, 1997 Permit No. 9523-AA003 facility-specific conditions to Permit No. 94TVP01 conditions. This table does not include standard and general conditions.

Permit No. 9523-AA003 Condition	Description of Requirement	Permit No. 94TVP01 condition	How condition was revised
Introductory paragraph and Exhibit A	Authority for permit and source list	Section 2 and Table 1	Same information, different format
1	comply with ambient air quality standards	None	Current regulations require only for construction permits.
2 and Exhibit B	comply with most stringent emission standards, specifications, limits (SLS)	Section 5	Emission limits unchanged and now listed as conditions
3	operate and maintain equipment to minimize emissions during startup and shutdown	None	Replaced by condition 6 for NSPS sources and condition 23 for all sources.
4	No modifications which might result in an increase in PTE without 30 day advance notification	For Source IDs 3, 4, 5, 11 and 12	Revised in Title V regulations. NSPS sources subject to conditions 6 - 12
5	Limit operating hours of drill rig diesels	None	None. Drill rig engines now considered mobile sources and exempt from Title V regulations.
6	Limit hours on 3 Solar turbines, 1200 hp units and the emergency generator	14.1 & 14.2	Owner requested limit on operating hours of Source ID18 and yearly flare fuel gas limit.
7	Source testing requirement	31	Same requirement, changed wording
8	Submit source test plans within 30 & 60 day windows specified prior to testing	37	Sources removed from the facility
9	Written notification 10 days prior to testing	38	Same requirement, changed wording
10	Source test rate	32	Same requirement, changed wording

Permit No. 9523-AA003 Condition	Description of Requirement	Permit No. 94TVP01 condition	How condition was revised
11	Submit source test results	39	Same requirement, changed wording
12	Install, operate & maintain process monitors per Exhibit C	5.1, 10.2 & 10.3	Same requirement, changed wording for diesel fuel. Drill rig engines now considered mobile sources and exempt from Title V regulations. 1200 hp Solar turbines hours limits removed
13	Notify the Dept. within 24 hours-fax or phone- of any excess emissions	45	Changed to report within 48 hours
14	Submit written excess emissions report within 5 days unless notified per 13	45	Same requirement, changed wording
15	Access to the facility	55	Same requirement, changed wording
16	Submit two copies of semi-annual Facility Operating Reports Jan. 30 & July 30	47	Same requirement, changed wording
17	Maintain records	44	Same requirement, changed wording
18	Display permit in control room & keep on file	None	Not authorized under current regulations.

LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

Conditions 1 – 2 Emission Fees

Applicability: [18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

The regulations require all permits to include due dates for the payment of fees and any method the permittee may use to re-compute assessable emissions.

Factual Basis: These standard conditions require the permittee to pay fees in accordance with the department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air contaminant authorized by the permit (AS 46.14.250(h)(1)(A)). Air contaminant means any regulated air contaminant and any hazardous air contaminant. Therefore, assessable emissions under AS 46.14.250(h)(1)(A) means the **potential** to emit any air contaminant identified in the permit, including those not specifically limited by the permit. For example, hydrogen chloride (HCl) emissions from an incinerator are assessable emissions because they are a hazardous air contaminant, even if there is currently no emission limit on HCl for that class of incinerator.

The conditions also describe how the permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air contaminant. Therefore, fees based on actual emissions must also be paid on any contaminant emitted whether or not the permit contains any limitation of that contaminant.

This standard condition specifies that, unless otherwise approved by the department, calculations of assessable emission based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emission are based on the previous year, the department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match. The permittee will normally pay for actual emissions – just with a one-year time lag.

Projected actual emissions may differ from the previous year's actual emissions if there is a change at the facility, such as changes in equipment or an emission rate from existing equipment.

If the permittee does not choose to annually calculate assessable emissions, emissions fees will be based on “potential to emit” (PTE).

The PTE set forth in the condition is based on 0.5 percent by weight sulfur content or fuel gas with a sulfur content of 4000 ppm H₂S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the permittee should reflect the actual sulfur content.

Condition 3 and Section 13, Visible Emissions Standard

Applicability: This regulation applies to operation of all fuel-burning equipment in Alaska. Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 are fuel-burning equipment

Factual basis: Condition 3 requires the permittee to comply with the federal and the state visible emission standards applicable to fuel-burning equipment and incinerators. The permittee shall not cause or allow the equipment to violate these standards.

This condition has recently been adopted into regulation as a standard condition.

Gas Fired:

Monitoring – The monitoring of gas fired sources for visible emissions is waived, i.e. no source testing will be required. The department has found that natural gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The visible emissions may be observed by either Method-9 or the Smoke/No Smoke plans as detailed in Section 13. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping – The permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting – The permittee is required to report: 1) emissions in excess of the federal and the state visible emissions standard, 2) and deviations from permit conditions. The permittee is required to include copies of the results of all visible emission observations with the facility operating report.

Insignificant Sources:

For Source ID 18 no visible emissions monitoring is required because this source is an insignificant source based on actual emissions and has permit condition 14 that limits hours of operation. As long as the source does not exceed the limit it is insignificant for emissions as specified in 18 AAC 50.335(r) and no monitoring is required in accordance with recently issued Department Guidance AWQ 02-014. The permittee must annually certify compliance under condition 48 with the opacity standard.

Flares:

Monitoring for flares (Source ID 21) requires Method-9 or Smoke/No-Smoke observations of scheduled flaring events lasting more than one hour. The permittee must report the results of these observations to the department.

Condition 4 and Section 13, Particulate Matter (PM) Standard

Applicability: The PM standard applies to operation of all fuel burning equipment in Alaska. Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 are fuel-burning equipment. The SIP

standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983.

Factual basis: Condition 4 requires the permittee to comply with the state PM (also called grain loading) standard applicable to fuel-burning equipment. The permittee shall not cause or allow fuel-burning equipment to violate this standard.

MR&R requirements are listed in Section 13 of the permit.

Gas Fired:

Monitoring – The monitoring of gas fired sources for particulate matter is waived, i.e. no source testing will be required. The department has found that natural gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping – The permittee is required to record the results of PM source tests.

Reporting – The permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The permittee is required to include copies of the results of all visible emission observations with the facility operating report.

Insignificant Sources:

For Source ID 18 no particulate emission monitoring is required because this source is an insignificant source based on actual emissions and has permit condition 14 that limits hours of operation. As long as the source does not exceed the limit it is insignificant for emissions as specified in 18 AAC 50.335(r) and no monitoring is required in accordance with recently issued Department Guidance AWQ 02-014. The permittee must annually certify compliance under condition 48 with the particulate emission standard.

Flares:

Monitoring of gas fired flares for particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The department has recognized this fact by incorporating the waiver in the State Implementation Plan adopted in November 1984 which has not been federally approved. No recordkeeping or reporting is required.

Condition 5, Sulfur Compound Emissions

Applicability: The sulfur emission standard applies to operation of all fuel-burning equipment in the State of Alaska. Source IDs 3, 4, 5, 11, 12, 18, 19, 20 and 21 are fuel-burning equipment. The SIP standard for sulfur dioxide applies because it is contained in the federally approved SIP dated October 1983.

Factual basis: The condition requires the permittee to comply with the sulfur emission standard applicable to fuel-burning equipment. The permittee may not cause or allow the affected equipment to violate this standard.

Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g. diesel or No. 2 fuel oil). Fuel containing no more than 0.5 percent sulfur by weight will always comply with the emission standard. For fuels with a sulfur content higher than 0.75 percent, the condition requires the permittee to use Section 14 to calculate the sulfur-dioxide concentration using the equations to show that the standard is not exceeded.

Fuel sulfur testing will verify compliance.

Fuel gas sulfur is measured as hydrogen sulfide (H_2S) concentration in ppm by volume (ppmv). Calculations⁶ show that fuel gas containing no more than 4000 ppm H_2S will always comply with this emission standard. This is true for all fuel gases, even with no excess air.

Due to the low hydrogen sulfide (H_2S) concentration in the current gas fields Marathon was granted an Alternate Fuel Monitoring Schedule for burning pipeline quality natural gas on September 23, 1998.

Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H_2S concentration of even 10 percent of 4000 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

Recordkeeping – For Diesel fuel the permittee is required to record the fuel sulfur content or fuel grade of each shipment and all material balance calculations, and for fuel gas, the H_2S concentration of the fuel gas.

Reporting – The permittee is required to report as “state” excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition. The permittee is required to include the material balance calculations for fuel oil in the excess emissions report.

The permittee is required to include copies of the records mentioned in the previous paragraph with the facility operating report.

Condition 6 – 8 NSPS Subpart A Requirements

Applicability: The department has incorporated by reference the NSPS effective July 1, 1999, for specific industrial activities, as listed in 18 AAC 50.040. However, EPA has not delegated to the department the authority to administer the NSPS program as of the final date of the permit in October 2002.

⁶ See ADEC Air Permits Web Site at <http://www.state.ak.us/dec/dawq/aqm/newpermit.htm>, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO_2 Concentration."

Most (with the exception of some storage tanks) sources subject to an NSPS are subject to Subpart A. At this facility, Source IDs 3, 4, 5, 11, and 12 are subject to NSPS Subpart GG and therefore subject to Subpart A.

Factual Basis: Subpart A contains the general requirements applicable to all affected facilities (sources) subject to NSPS. In general the intent of NSPS is to provide technology-based emission control standards.

Condition 9 - 13 NSPS Subpart GG Requirements

Applicability: NSPS Subpart GG applies to stationary gas turbines with a heat input at peak load (maximum load at 60 percent relative humidity, 59 degrees F, and 14.7 psi) equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuels fired and constructed, modified, or reconstructed after October 3, 1977.

Factual Basis: These conditions incorporate NSPS Subpart GG NO_x emission and sulfur compound limits. Source IDs 11 and 12 are subject to the NO_x emission standards. Source IDs 3, 4, 5, 11 and 12 are subject to the sulfur compound emission standards. The permittee may not allow equipment to violate these standards. Marathon calculated the maximum NO_x emission based on the vendor's maximum heat rates at 5251 hp and 4446 hp.

NO_x Standard: For a turbine subject to 40 C.F.R. 60.332, the NO_x standard is determined by the following equation:

$$STD_{NOX} = 0.015 * \frac{14.4}{Y} + F$$

Where: STD = allowable NO_x emissions, percent by volume at 15% O₂ and on a dry basis

Y = manufacturer's rated heat rate at manufacturer's rated peak load, kilojoules per watt hour, or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the affected facility. The value of Y shall not exceed 14.4 kilojoules per watt-hour. . For Sources 11 and 12, Y = 13.05 kJ/W-hr.

F = NO_x emission allowance for fuel-bound nitrogen, percent by volume, **assumed to be zero for Alaskan fuels.**

The NO_x limit for Source IDs 11 and 12 is 166 ppmvd at 15% O₂ (using a manufacturer's heat rate at a maximum of 13.05 kJ/W hr).

SO₂ Standard: Conditions 10 through 13 reflect the terms granted the permittee in an alternative custom monitoring plan by US EPA on September 23, 1998. The permittee is required to comply with one of the following sulfur requirements for Source IDs 3, 4, 5, 11, and 12 (turbines):

- (1) do not cause or allow SO₂ emission in excess of 0.015 percent by volume, at 15 percent O₂ and on a dry basis (150 ppmv), or

- (2) do not cause or allow the sulfur content for the fuel burned in Source IDs 3, 4, 5, 11, and 12 to exceed 0.8 percent by weight.

Exemptions - Emergency gas turbines,⁷ military gas turbines for use in other than a garrison facility, military gas turbines installed for use as military training facilities, and fire fighting gas turbines are exempt from NO_x and sulfur compound emission limit in conditions 9 and 10.

Conditions 9.2 - 9.4. NO_x Monitoring, Recordkeeping, and Reporting

Applicability: Periodic monitoring is included in condition 9. This additional monitoring is necessary to ensure that turbine emissions stay below the NSPS NO_x standard.

Factual Basis: The department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NO_x emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NO_x data is gathered under monitoring conditions for compliance with 40 C.F.R. 60, Subpart GG, the department may find that it has enough information to make such categorical determinations. In that event, the department would revise the NO_x monitoring conditions. The department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

These conditions do not include the initial NSPS performance test requirements. If a turbine under this permit is still subject to the performance test requirement of 40 C.F.R. 60.8, a source specific condition will be necessary.

The intent of these conditions is that turbines or groups of turbines be initially tested on a 5-year cycle. If no testing is required during the permit term, and if the same condition were used in the renewal permit initial testing could be on a 10-year testing cycle. After the first testing cycle, the department intends to re-evaluate the necessary monitoring frequency.

The condition does not state how load must be measured. For some turbines it may be possible to directly measure load as either mechanical or electrical output. For others, it may be necessary to calculate load indirectly based on measurements of other parameters. The department is not attempting to dictate what method is most appropriate through the permit condition, but should evaluate the adequacy of methods of calculating load based on the load monitoring proposed by the permittee.

Subpart GG defines “emergency gas turbine” and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the department has added a Method 20 monitoring threshold of 400 operating hours in any consecutive twelve-month period. For turbines expected to operate less than 400 hours the department has also added recordkeeping for hours of operation. The department does not intend to require the permittee to operate a turbine solely for the purpose of testing.

⁷ *Emergency Gas Turbine* means any stationary gas turbine that operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation, as defined in 40 C.F.R. 60.331(e), effective 7/1/99.

The condition requires testing at a range of loads, consistent with the performance test requirements in Subpart GG, that is, test at 30, 50, 75, and 100 percent load. If testing at these four loads is not reasonable, the condition allows the permittee to propose to the department what test loads will be reasonable and adequate, and the department will have the responsibility to make a finding on that proposal. If EPA has already approved alternative test loads for the initial performance test the department would allow those test loads if the information that went into that decision were still representative of the turbine operation.

In condition 9.2c(ii)(c)(iii), the department considers “fuel type” to mean, for liquid fuels a type of fuel as described in an ASTM or similar fuel specification.

Load measurements or load calculations from load surrogate measurements are for one-hour periods. The intent is to match the averaging period for the test method. Method 20 identifies a number of traverse points that vary with the size of the stack. From these points the tester is to choose at least 8 points for NO_x measurements. The time at each point is to be at least one minute plus the average response time of the instrument. The recorded value is the average steady state response. Presumably, the steady state response would exclude some or all of the response time of the instrument. Three runs are to be done at each test load.

The three runs would represent 24 minutes of measurement time or more. A one-hour average load is therefore a reasonable approximation of a load period corresponding to the test method.

Condition 14 Owner Requested Limits

Applicability: [18 AAC 50.350(e)(3) & 18 AAC 50.350(g)-(i), 5/3/02]

Factual Basis: Condition 14 was proposed by the permittee in order to avoid classification as a PSD major facility. The hour limits on Source ID 18 and the fuel limit on Source ID 21 will limit the emissions of NO_x and CO at the facility discharges to no more than 249 tons of either contaminant in any consecutive twelve-month period.

Condition 15, HAPs Emission Controls

Applicability: These emission control requirements were triggered for Source IDs 22, 23, 24 and 25 in December 2001 when KGF PAD 14-6 became an affected facility under 40 CFR Part 63 for hazardous air pollutants.

Factual basis: The initial Title V application of October 1997 did not contain terms/conditions for hazardous air pollutants (HAPs) control since the lower gas throughput resulted in lower HAP emissions from the glycol dehydrators and the Maximum Achievable Control Technology (MACT) standards for a Natural Gas Field Production Facility were not yet promulgated.

KGF PAD 14-6 was classified as an area source based on a Maximum Achievable Control Technology (MACT) Applicability Determination that was conducted in 2000.

Due to increased natural gas production and based on the available gas analysis data, KGF PAD 14-6 became a major source of HAPs in 2001 based on the January 1 - December 31

production rates and the HAPs calculation results from GRI-GLYCalc®, Version 4. KGF PAD 14-6 is subject only to 40 CFR Part 63, Subpart HH– National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities (6/17/99).

All of the affected sources at KGF PAD 14-6 were constructed prior to February 6, 1998. Under 40 CFR 63.760(f)(1), Marathon plans to comply with this subpart no later than three years from December 31, 2001. Prior to the compliance date Marathon will install and operate control equipment for the vents of Source IDs 22, 23, 24 and 25 ensuring the actual and potential HAP emissions after December 31, 2004 are below the major source thresholds of 10 tpy of any individual HAP and 25 tpy for all HAPs.

Marathon Oil Company has proposed federally enforceable terms and conditions and an emissions control system to reduce HAPs emissions below the threshold levels before the mandatory compliance date of December 31, 2004. Compliance with the permit terms/conditions for Source IDs 22, 23, 24, and 25 and operating the emission control system allows Marathon Oil Company, per the EPA MACT Guidance of May 16, 1995, to remain a "synthetic minor" area source for HAPs and not subject to the provisions of 40 CFR 63 Subpart HH.

Marathon's data from GRI-GLYCalc®, Version 4 shows that HAPs emissions for 2001 were 29.5 tpy with Xylene compounds totaling 14.7 tpy.

Condition 16, HAPS Reconstruction

Applicability: Applies to the facility because the facility is a hazardous air pollutant (HAP) major facility as described in 18 AAC 50.300(f).

Factual Basis: The condition requires the permittee obtain written approval from the department before reconstructing a HAP-major source. Pre-construction approval for reconstructing a HAP-major source is a requirement of the Clean Air Act. Alaska's construction permit program does not require a construction permit for reconstructing a source, only for reconstructing a facility. Therefore, this condition is a standard condition in all HAP-major facility operating permits.

Conditions 17 – 20 Insignificant Sources

Applicability: These general emission standards apply to all industrial processes, fuel-burning equipment, and incinerators regardless of size.

Factual basis: Conditions 17 through 20 require the permittee to comply with the general standards for insignificant sources. The permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The department finds that the insignificant sources at this facility do not need specific monitoring, recordkeeping and reporting to ensure compliance with these conditions.

Condition 21, Asbestos NESHAP

Applicability: If the permittee engages in asbestos demolition and renovation, then these requirements may apply.

Factual Basis: The condition cites and requires compliance with the regulations that will apply if the permittee engages in asbestos demolition or renovation. Because these regulations include adequate monitoring and reporting requirements and because the permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient.

Condition 22, Refrigerant Recycling and Disposal

Applicability: Applies if the permittee engages in the recycling of certain refrigerants.

Factual Basis: The condition requires the permittee to comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F, that will apply if the permittee uses certain refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 23, Good Air Pollution Control Practice

Applicability: applies to all sources, **except** NSPS regulated sources, i.e. Source IDs 11 and 12.

Factual basis: The condition requires the permittee to comply with good air pollution control practices for all sources.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the department. The department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 24, Dilution

Applicability: [18 AAC 50.045(a), 1/18/97]
[18 AAC 50.350(f)(3), 1/18/97]
[18 AAC 350(g) – (i), 1/18/97]

Applies to the permittee because the permittee must comply with emission standards in 18 AAC 50.

Factual Basis: The requirement prohibits diluting emissions as a means of compliance. In practical terms, dilution only affects compliance when the emissions are being measured. Therefore, the monitoring is limited to immediately before source testing and once a year for exhaust that is continuously monitored.

Dilution can occur by design or by leaks in the exhaust ductwork. Intentional dilution is not expected to be a problem, as it would increase operating costs by increasing induced draft fan power requirements. Careful review of source test plans and operating conditions will prevent intentional dilution. Therefore, only leaks need to be monitored under this condition.

The monitoring adequately prevents dilution by requiring leaks to be repaired before compliance with the emission standards is measured.

Condition 25. Reasonable Precautions to Prevent Fugitive Dust

Applicability: Bulk material handling requirements apply to the permittee because the permittee will engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the facility.

This condition applies to operating permits for facilities that do not have an approved dust control plan, and contain one of the following sources: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted facility or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle that ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic.

Factual Basis: The underlying regulation, 18 AAC 50.045(d), requires the permittee to take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air.

Not all facilities have the potential to generate fugitive dust during the life of the permit. The department will determine whether precautions are reasonable based on a variety of factors, including the distance to the facility boundaries, nature and content of the dust, proximity to neighbors, and the nature of the activity. This condition applies to the types of sources or activities that are likely to generate fugitive dust as identified above. It allows the precautions that are identified under the permit to be appropriate and specific to the activities conducted by the permittee.

Condition 26, Stack Injection

Applicability: [18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

Factual Basis: The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical.

Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 27. Open Burning

Applicability: These conditions apply if the permittee conducts open burning at the facility.

Factual Basis: The condition requires the permittee to comply with the regulatory requirements when conducting open burning at the facility.

No specific monitoring is required for this condition. The permit does require the permittee to keep "sufficient records" to demonstrate compliance with the standards for conducting open burning, but does not specify what these records should contain.

More extensive monitoring and recordkeeping is not warranted because the permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 28, which requires a record of complaints. Therefore, the department does not believe that additional monitoring is warranted.

Condition 28, Air Pollution Prohibited

Applicability: Air Pollution Prohibited requirements apply to the facility because the facility will have emissions.

Factual Basis: The condition prohibits the permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the permittee must monitor and respond to complaints.

The permittee is required to report any complaints and injurious emissions. The permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the department.

The department will determine whether the necessary actions were taken. No corrective actions are necessary if the complaint is frivolous or there is not a violation of 18 AAC 50.110, however this condition is intended to prevent the permittee from prejudging that complaints are invalid.

Condition 29, Technology-Based Emission Standard

Applicability: [18 AAC 50.235(a) & 18 AAC 50.350(f), 1/18/97]

Applies to the facility because the facility contains equipment subject to a technology-based emission standard.

Factual Basis: This condition restates a regulation that requires the permittee to take reasonable steps to minimize emissions if certain activity causes exceedance of a technology-based emission standard. Because the technology-based emission standard itself is a condition of the permit, the permittee will report the excess emissions under condition 45. Because the excess emission report requires information on the steps taken to minimize emissions, this report is adequate monitoring for compliance with this condition.

Condition 30, Permit Renewal

Applicability: Applies if the permittee intends to renew the permit.

Factual Basis: The condition restates the regulatory deadlines, citing the specific dates applicable to KGF PAD 14-6. Monitoring, recordkeeping, and reporting for this condition consist of the application submittal. No additional requirements are necessary to ensure compliance with this condition.

Condition 31, Requested Source Tests

Applicability: Applies because this is a standard condition to be included in all permits

Factual Basis: The permittee is required to conduct source tests as requested by the department. Monitoring consists of conducting the requested source test, and no recordkeeping or reporting requirements is necessary to ensure compliance with this condition.

Conditions 32 – 34, Operating Conditions, Reference Test Methods, Excess Air Requirements

Applicability: Apply when the permittee is required to conduct source tests by this permit.

Factual Basis: The permittee is required to conduct source test as set out in conditions 32 through 34. These conditions supplement the specific monitoring requirements stated elsewhere in this permit. The test reports required by condition 39 adequately monitor compliance with conditions 32 through 34, therefore no additional MR&R requirements are necessary to ensure compliance with these conditions.

Condition 35, Test Exemption

Applicability: Applies when the source exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 36 – 39, Test Deadline Extension, Test Plans, Notifications and Reports

Applicability: Apply because the permittee is required to conduct source test by this permit.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Condition 40, Particulate Matter Calculations

Applicability: Applies when the permittee tests for compliance with the particulate matter standard.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. The permittee must use a certain equation to calculate the particulate-matter emission concentration from the source test results. Because this condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required.

Condition 41, Certification

Applicability: This is a standard condition to be included in all permits. Applies because every permit requires the permittee to submit reports.

Factual Basis: This condition requires the permittee to certify all reports submitted to the department. To ease the certification burden on the permittee, the condition allows the excess emission reports to be **certified** with the facility report, even though it must still be **submitted** more frequently than the facility operating report. This condition supplements the reporting requirements of this permit, therefore no additional MR&R is necessary to ensure compliance with this condition.

Condition 42, Submittals

Applicability: Applies because the permittee is required to send reports to the department.

Factual Basis: This condition requires the permittee to send submittals to the address specified in this condition. Receipt of the submittal at the correct department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of this permit, therefore no additional MR&R is necessary to ensure compliance with this condition.

Condition 43, Information Requests

Applicability: Applies to all permittees and incorporates a standard condition.

Factual Basis: This condition incorporates a standard condition in regulation, which requires the permittee to submit information requested by the department. Receipt of the requested information is adequate monitoring.

Condition 44, Recordkeeping Requirements

Applicability: [18 AAC 50.350(h), 1/18/97]

Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide adequate evidence of compliance with this requirement, therefore, no additional monitoring, recordkeeping or reporting is required.

Condition 45, Excess Emissions and Permit Deviation Reports

Applicability: Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two state regulations related to excess emissions – the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The reports themselves and the other monitoring records required under this permit provide an adequate monitoring of whether the permittee has complied with the condition.

Therefore, no additional MR&R are necessary to ensure compliance with this condition.

Please note that there may be additional federally required excess emission reporting requirements.

Condition 46, NSPS and NESHAP Reports

Applicability: Applies to facilities subject to NSPS and NESHAP federal regulations.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60, 40 C.F.R. 61, and 40 C.F.R. 63. The condition does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 47, Operating Reports

Applicability: Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 48, Annual Compliance Certification

Applicability: Applies to all permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no monitoring, recordkeeping or reporting is needed.

Conditions 49 – 55, Standard Conditions

Applicability: Applies because these are standard conditions to be included in all operating permits.

Factual Basis: These are standard conditions required for all operating permits.

Condition 56, Permit Shield

Applicability: Applies because the permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: Table 3 of Operating Permit No. 094TVP01 shows the permit shields that the department granted to the permittee. The permit conditions set forth the requirements that the department determined were not applicable to the facility. The following table shows the requests that were denied and the reasons that they were denied. The department based the determinations on the permit application, past operating permit, construction permits and inspection reports.

Table C. Permit Shield Decision

Shield requested for:	Shielded?	Reason for shield decision
40 C.F.R. 61	No	Removing asbestos makes facility subject to 40 C.F.R. 61

Conditions 57 – 63, Visible Emissions and Particulate Matter Monitoring Plan

Applicability: Apply because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 3 and 4.

Factual Basis: Each permit term and condition must include monitoring, recordkeeping and reporting for the permittee to show verifiable compliance with each permit term and condition. The permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 3 and 4.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Notification of the department via recordkeeping and reporting requirements are included in these conditions.

Conditions 64 – 66, Particulate Matter Monitoring for Diesel Engines and Liquid Fired Turbines

Applicability: Apply because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 3 and 4.

Factual Basis: Each permit term and condition must include MR&R requirements showing verifiable compliance with each permit term and condition. The permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 3 and 4.

These conditions detail a stepwise process for monitoring compliance with the State's particulate matter standards for liquid-fired sources. Equipment types covered by these conditions are liquid-fired internal combustion engines and turbines. The final terms and conditions reflect the recently issued Department Guidance AWQ 02-014 # 3 for sources that do not qualify as an insignificant because of an operational limit but otherwise have potentially insignificant emissions. Source ID 18 is classified as insignificant as long as its operation does not exceed the owner requested operational limit. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for liquid hydrocarbon fuels are detailed in these conditions.

Condition 67, Visible Emissions MR&R Plan for Flares

Applicability: Applies because this condition details the monitoring, recordkeeping, and reporting required to demonstrate compliance with condition 3 for gas-fired flares.

Factual Basis: Condition 67 was developed to provide a standardized version of flare monitoring that is not dependent upon the type or design of upstream equipment. It has been claimed that gas-fired flares normally burn without emitting visible emissions, but actual field data demonstrating this assumption is not available. However, gas-fired flares have

been shown to smoke when a control device, i.e. a knockout drum, flare scrubber, gas or steam assist, or vapor recovery system malfunctions. Thus, the condition sets out a protocol to collect actual field data to determine compliance with the 20 percent opacity standard for flares. A Smoke/No-Smoke option was proposed by Marathon and accepted the department based on the high purity gas analysis for the existing gas field.

A recent department analysis of industry flaring operations indicates that 49 percent of the gas flared (by volume) is for pilot/purge, 25 percent is for flaring less than one hour, and 26 percent is for flaring that lasts more than one hour. Pilot/purge flaring constitutes half of all flaring by volume and is continuous in nature and can be observed at any time. This type of flaring has not caused violations of the opacity standard in the past and can be checked at any time by agency inspectors. The remaining half of the flaring volume is split evenly between less than and greater than one-hour duration. Therefore, the monitoring scheme in this condition addresses the half of the non-continuous flaring operations that are scheduled and for which a certified observer can reasonably be located onsite.

Since it is impractical to require facilities to have a certified Method-9 opacity reader on site for unpredictable emergency flaring, the monitoring protocol requires Method-9 readings only during scheduled flare events. Scheduled events such as those generated by maintenance activities and well testing of greater than one-hour in duration will be observed. These one-hour events are currently quantified and reported to the Alaska Oil and Gas Conservation Commission for other reasons and thus provides a confirming information record of the occurrence of these events. Only those events as defined in the condition need to be monitored. If no events meeting this definition occur during the life of the permit then no monitoring is required.

Since only flaring that is scheduled and exceeds one hour is required to be observed, operators will have time to provide certified Method-9 readers onsite. Most oil and gas production facilities in Alaska are located at remote sites, so it is not reasonable to self-monitor all or even a large sample of the flaring that occurs. Data collected from planned events will help the department refine this monitoring scheme during future permit cycles. Process upsets and emergency events that may or may not exceed one hour occur randomly and do not lend themselves easily to periodic monitoring. At this time, the department will rely on facility excess emission reports, citizen complaints, and agency inspections for information concerning these short term and emergency events.